

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HARRY SCHLEICHER, BODO BORRMEISTER and HERMANN LANG

Appeal No. 2001-1375
Application 09/204,609

ON BRIEF

Before WARREN, WALTZ, and POTEATE, Administrative Patent Judges.
POTEATE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-7, which are all of the claims pending in the application.

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1. A process for preparing a cellulose carbamate solution, the process comprising

(a) preparing an 8% to 15% cellulose carbamate solution with a sodium hydroxide concentration of 7% to 12% by dissolving cellulose carbamate in a sodium hydroxide solution at a temperature of less than 10°C, and

(b) adjusting the sodium hydroxide concentration of the cellulose carbamate solution to a concentration that is less than the concentration in a) and less than 9% by adding to the cellulose carbamate solution either

(i) a single diluent comprising a dilute sodium hydroxide solution or water, or

(ii) a first diluent followed by a second diluent, wherein one of said diluents is water and the other is a dilute sodium hydroxide solution,

provided that the weight ratio of cellulose carbamate to sodium hydroxide in both (a) and (b) is greater than 1.

The references relied upon by the examiner are:

Selin et al. (Selin)	4,526,620	Jul. 2, 1985
Turunen et al. (Turunen)	4,639,515	Jan. 27, 1987

GROUND OF REJECTION

1. Claims 1-7 stand rejected under 35 U.S.C. § 103 as unpatentable over Turunen.

BACKGROUND

The invention relates to a two-step method for preparing a cellulose carbamate solution having a high cellulose carbamate content, low sodium hydroxide content and a low undissolved cellulose carbamate particle content. Appeal Brief, Paper No. 11, received February 2, 2000, Summary Of Invention, pages 2-3. In the first step of the process, a cellulose carbamate solution having 8-15 weight percent cellulose carbamate and 7-12 weight percent sodium hydroxide is prepared. Id., page 3. In the second step, dilute sodium hydroxide solution and/or water, is added to the first solution to produce a second solution having a sodium hydroxide concentration which is less than the sodium hydroxide concentration of the first solution and less than 9%. Id. The claims further require that the weight ratio of cellulose carbamate to sodium hydroxide in both solutions is greater than one. Id.

Cellulose carbamate solutions made in accordance with the method of the invention are utilized in spinning processes for

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while maintaining the lowest possible sodium hydroxide content. Id., page 2, lines 12-13. It is further desirable that the undissolved particle content in the solutions be minimal. Id., lines 14-15.

According to appellants, the initial step of the claimed process uses high sodium hydroxide concentrations to enhance solubility of the cellulose carbamate. Reply Brief, Paper No. 13, received July 10, 2000, page 2. Since high concentrations of sodium hydroxide are considered undesirable for spinning purposes, the second step of the process is used to reduce sodium hydroxide concentration to a level which is economically feasible for spinning without causing precipitation of the cellulose carbamate. Id.

DISCUSSION

1. Rejection of claims 1-7 under 35 U.S.C. § 103 as unpatentable over Turunen.

The examiner found that "[t]he instant claims differ from

examiner concedes that Turunen teaches a single step rather than a two-step process for adjusting sodium hydroxide concentration, he maintains that the invention "amounts to no more than a breaking up of the prior art base addition step into a base addition step followed by a marginal dilution step." Id., pages 3-4. According to the examiner, it would have been obvious to one of ordinary skill in the art to have modified Turunen's process by marginally diluting the solution to correct the base concentration as this is "a skill very well known in the chemical arts." Id., page 4.

Proper analysis under section 103 requires, inter alia, a consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device or carry out the claimed process; and (2) whether the claimed prior art would have revealed a reasonable expectation of success in doing so. See In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988). In order to prevent the impermissible use of

skill in the art, with no knowledge of the invention, would modify the prior art in the manner claimed. Id.

The examiner's findings are insufficient to show that one of ordinary skill in the art would have been motivated to modify Turunen to achieve the claimed invention absent knowledge of appellants' invention. In particular, the examiner has failed to identify any teaching or suggestion in Turunen of a *two step* process for preparing a cellulose carbamate solution wherein, in each step, the weight ratio of cellulose carbamate to sodium hydroxide is greater than one as required by the claims. Further, Turunen fails to teach a processing temperature of less than 10°C. Rather, as alluded to by appellants, Turunen suggests that the processing temperature is actually higher than 10°C since it is indicated that crystallization, which takes place after preparation of the carbamate solution, requires cooling to a temperature of 10 to 20°C. See Reply Brief, page 3 (referencing column 3 of Turunen).

Accordingly, we conclude that the examiner has failed to

2. Rejection of claims 1-7 under 35 U.S.C. § 103 as unpatentable over Selin.

The examiner found that "[t]he instant claims differ from the process of the Selin et al patent by reciting a second step to adjust the sodium hydroxide concentration to one that is less than the concentration in step (a) and less than 9%." Examiner's Answer, page 4. The examiner concludes that it would have been obvious to one of ordinary skill in the art to have modified Selin's process to achieve the two step process as claimed by utilizing a base addition step followed by a marginal dilution step. According to the examiner, "[m]arginally modifying a solution by dilution to correct base concentration is a skill very well known in the chemical arts." Id., page 5.

As with Turunen, the examiner has failed to identify any disclosure or suggestion in Selin of a two-step process wherein the weight ratio of cellulose carbamate to sodium hydroxide in each of the solutions prepared in each of the process steps is greater than one.¹ Further, the only reasons provided by the

obvious to have modified Selin to achieve the claimed invention are based more on supposition than on explicit factual findings and, in our view, do not amount to a prima facie showing of obviousness. See In re Kotzab, 217 F.3d 1370, 1371, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000) (emphasis added) ("[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.") Accordingly, the rejection is reversed.

Having concluded that a prima facie case of obviousness has not been established, we need not consider appellants' evidence of nonobviousness. However, having considered the specification disclosure, we note the following. Examples one and two provide a direct comparison between cellulose carbamate solutions prepared by a one-step method as taught by the closest prior art versus the claimed two-step method. Based on our review of the comparison data, we agree with appellants that these examples demonstrate that the claimed process unexpectedly results in a

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REVERSED

CHARLES F. WARREN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
THOMAS A. WALTZ)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
LINDA R. POTEATE)	
Administrative Patent Judge)	

LRP:pgg

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